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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,665	01/27/2006	Sabine Mollus	DE030271	1137

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

SONG, HOON K

ART UNIT	PAPER NUMBER
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2882

MAIL DATE	DELIVERY MODE
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07/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/566,665		MOLLUS ET AL.	
	Examiner		Art Unit	
	Hoon Song		2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2006 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/27/06</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the means for detecting a movement as claimed in claim 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Specification

Headings for each section are missing.

Description of the drawings is missing.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-10, it is unclear what is meant by "adjusting the collimator such that the subsequent x-ray pictures are concentrated on the region of interest". Specifically how the x-ray pictures are concentrated on the region of interest?. "The subsequent x-ray pictures" lacks proper antecedent basis.

Regarding claim 6, "it" is unclear. Similar 112 issue exists.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Roeck et al. (US 5394455).

Regarding claim 1, Roeck teaches an X-ray unit for generating imagings of a body, comprising

- a) an X-ray source (14);
- b) an automatically adjustable collimator (20) for limiting, locally attenuating and/or filtering an X-ray beam;
- c) an X-ray detector (12);
- d) a data processing unit (48) that is coupled to the collimator (20) and the X-ray detector (12) and that is designed to localize a region of interest inside the body on at least a first X-ray picture of the body transmitted by the X-ray detector (12) and to adjust the collimator (20) such that the subsequent X-ray pictures are concentrated on the region of interest (column 15 lines 16-40).

Regarding claim 2, Roeck teaches the irradiation field of the collimator adjusted on the region of interest is defined by an organ or part of an organ (figure 3).

Regarding claim 3, Roeck teaches the region of interest covers the possible positions of a body structure during a periodic movement of the body (figure 3).

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Regarding claim 4, Roeck teaches the data processing unit is designed to determine the region of interest on the basis of a plurality of first X-ray pictures from different phases of the periodic movement of the body (column 10 lines 62-column 11 line 9).

Regarding claim 5, Roeck teaches the first X-ray pictures display a contrast agent inside a vessel system and the data processing unit is designed to determine the course of the vessels from the detection of the contrast agent on the first X-ray pictures.

Regarding claim 10, Roeck teaches a method of generating X-ray pictures of a body, comprising the steps of:

- a) generating at least a first X-ray picture of the body;
- b) localization of a region (9) of interest inside the body on the first X-ray picture;
- c) automatic adjustment of a collimator (6) such that the subsequent X-ray pictures are concentrated on the region (9) of interest.

Claims 1-4 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kump et al. (US 6215853B1).

Regarding claim 1, Kump teaches an X-ray unit for generating imagings of a body, comprising

- a) an X-ray source;
- b) an automatically adjustable collimator for limiting, locally attenuating and/or filtering an X-ray beam;
- c) an X-ray detector;

d) a data processing unit that is coupled to the collimator and the X-ray detector and that is designed to localize a region of interest inside the body on at least a first X-ray picture of the body transmitted by the X-ray detector and to adjust the collimator such that the subsequent X-ray pictures are concentrated on the region of interest (column 2 lines 15-30).

Regarding claim 2, Kump teaches the irradiation field of the collimator adjusted on the region of interest is defined by an organ or part of an organ (column 2 lines 15-30).

Regarding claim 3, Kump teaches the region of interest covers the possible positions of a body structure during a periodic movement of the body (column 2 lines 15-30).

Regarding claim 4, Kump teaches the data processing unit is designed to determine the region of interest on the basis of a plurality of first X-ray pictures from different phases of the periodic movement of the body (column 10 lines 62-column 11 line 9).

Regarding claim 10, Kump teaches a method of generating X-ray pictures of a body, comprising the steps of:

- a) generating at least a first X-ray picture of the body;
- b) localization of a region of interest inside the body on the first X-ray picture;
- c) automatic 304 adjustment of a collimator such that the subsequent X-ray pictures are concentrated on the region of interest (column 2 lines 15-30).

Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Stegehuis et al. (US 5287396).

Regarding claims 1 and 10, Stegehuis teaches an X-ray unit for generating imagings of a body, comprising

- a) an X-ray source 2;
- b) an automatically adjustable collimator 11 for limiting, locally attenuating and/or filtering an X-ray beam;
- c) an X-ray detector 6;
- d) a data processing unit that is coupled to the collimator and the X-ray detector and that is designed to localize a region of interest inside the body on at least a first X-ray picture of the body transmitted by the X-ray detector and to adjust the collimator such that the subsequent X-ray pictures are concentrated on the region of interest (figure 4).

Claims 1 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Popescu (US 6501828B1).

Regarding claim 1, Popescu teaches an X-ray unit for generating imagings of a body, comprising

- a) an X-ray source 3;
- b) an automatically adjustable collimator 11 for limiting, locally attenuating and/or filtering an X-ray beam;
- c) an X-ray detector 4;

d) a data processing unit that is coupled to the collimator and the X-ray detector and that is designed to localize a region of interest inside the body on at least a first X-ray picture of the body transmitted by the X-ray detector and to adjust the collimator such that the subsequent X-ray pictures are concentrated on the region of interest (figure 1).

Regarding claim 8, Popescu teaches the data processing unit is designed to move the collimator to a specified standard adjustment if the region of interest cannot be localized or cannot be localized any longer with adequate certainty.

Regarding claim 9, Popescu teaches it is designed to undertake a three-dimensional localization of the region of interest from the first X-ray pictures, and in that the data processing unit is furthermore designed to readjust the collimator in the event of an alteration in the recording direction while the subsequent X-ray pictures are being taken.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Popescu.

Regarding claims 6-7, Popescu fails to teach a means for detecting a movement of region of interest.

Movement sensing system for reducing bur artifact is known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide CT system of Popescu with the known system, since it would improve the resultant image by reducing blur artifact.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon Song whose telephone number is (571) 272-2494. The examiner can normally be reached on 9:30 AM - 7 PM, Monday - Friday.

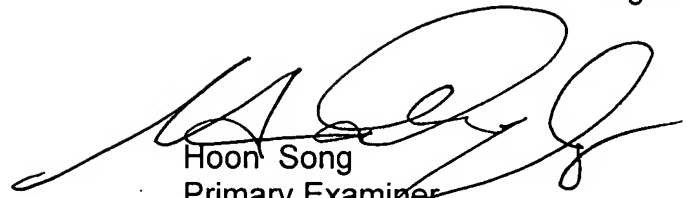
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272 - 2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read 'Hoon Song', written over the printed name.

Hoon Song
Primary Examiner
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